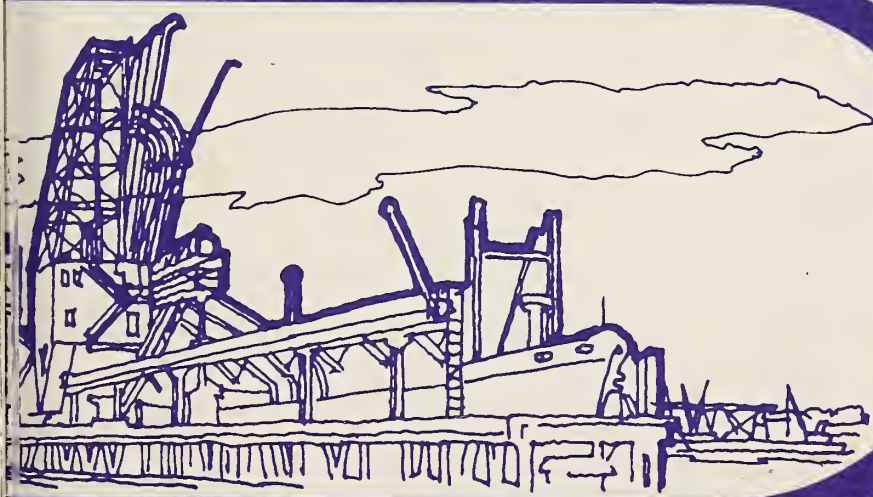


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HOW COOPERATIVES HELPED FARMERS IN TIME OF SHORTAGES



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FARMER COOPERATIVE SERVICE
U.S. DEPARTMENT OF AGRICULTURE

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HOW COOPERATIVES HELPED FARMERS IN TIME OF SHORTAGES //

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PACESETTERS IN THE PUBLIC INTEREST

Farmer cooperatives have been leaders in emphasizing agriculture's needs for fuel and fertilizer during shortages and have set examples for meeting farmers' needs.

These roles could be undertaken because farmer cooperatives provide about 30 percent of the refined fuels and 33 percent of the fertilizer all U.S. farmers use. Shares are near 50 percent in some central and midwestern States.

The executive vice president of a regional cooperative observes that: "The fact that agriculture squeezed by in 1973 with minimum loss of production was due in part to the extraordinary efforts of the farm supply cooperatives of our Nation. Cooperatives were among the first to recognize and call attention to the seriousness of the energy problem as it relates to food production. Months before the Government took action, cooperatives redirected their procurement and sales efforts to give top priority to farmers."

Cooperatives' manufacturing and wholesaling facilities helped make supplies available. Their local distribution system was keyed naturally to serving agriculture. The president of a statewide cooperative said that cooperatives became known for another major objective or service, namely, "supply availability."

Farmer cooperatives are experienced in meeting

adversities. They have encountered periods of drought, floods, world wars, rationing, price controls, depression, inflation, and even periods of oversupplies of some fertilizers in the past.

Specifically, how did cooperatives deal with the major problems of petroleum and fertilizer shortages?

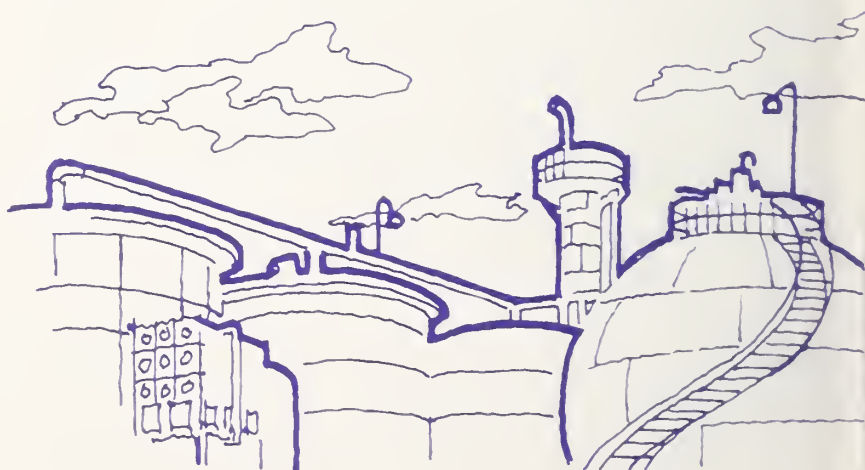
PETROLEUM

Farmers, through their cooperatives, own an integrated petroleum system that ranges from crude oil exploration and drilling to on-farm tanktruck deliveries. Some 2,700 local cooperatives operate 8,600 trucks to deliver fuel from 3,350 bulk plants. These locals own 24 regional wholesale purchasing cooperatives and 10 of these own 8 refineries. Cooperatively owned pipelines, barges, tankers, and highway transports move crude oil to refineries and refined fuels to storage terminals and local facilities.

Available Supplies Limited to Member-Patrons

When fuel became scarce, local cooperatives limited available supplies to member-patrons. Many operated service stations but gave priority to farm production needs. Some closed their service stations when supplies were shortest.

Likewise, regional wholesale cooperatives sold only to local cooperatives or their own bulk plants.



Only a short time before, a few with refineries also had supplied fuel to other firms.

Because cooperatives were formed to serve farmers, it was logical for them to sell only to members, even though this often limited or reduced the cooperatives' net margins.

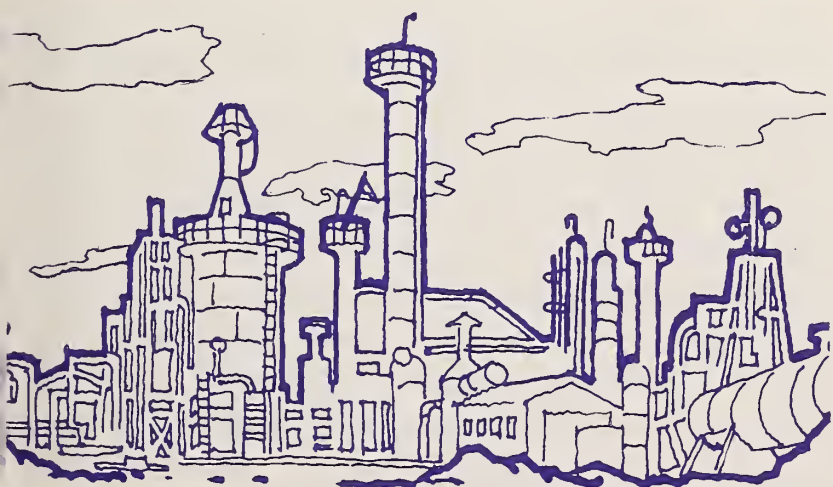
Special Purchases Made—Often at Extra Costs

Farmer cooperatives faced several difficult problems at the same time, requiring extraordinary efforts to acquire crude oil or refined fuels.

The Government was calling for expanded production from increased crop acres. Abnormal weather increased seasonal demands for fuel. Cooperatives' refineries struggled with reduced crude oil supplies.

Midland Cooperatives' refinery at Cushing, Okla., closed for several weeks. Indiana Farm Bureau Cooperative Association's plant at Mt. Vernon operated below capacity until it was able to purchase Government royalty crude oil. Farmland Industries' crude oil subsidiary searched for new sources of crude as far away as the east coast of Turkey.

Most regional cooperatives had to pay premium prices for part of their fuel requirements. They often sold fuel to members at market prices that did not reflect these inflated costs. As a result, for example, one cooperative's annual report showed that prices members paid for fuel did not



cover the cost of operating their cooperative's petroleum department in 1973—the first time in more than 40 years. Several factors were responsible: (1) The cooperative's refinery had to operate at 70 percent of capacity for 3 months because no company would exchange domestic crude oil with it for foreign crude authorizations; (2) 4 million gallons of fuel oil therefore were imported and sold to county cooperatives for heating purposes at \$250,000 below cost, but enabling the refinery to increase output of diesel fuel for farmers; and (3) farm demand for fuels exceeded 1972 demand by 25 percent—hence inventories were depleted by December 1 before prices went up.

Of the eight farmer cooperative oil refineries, seven are located inland. They had been exchanging their foreign crude oil import tickets with coastal refiners for domestic crude. In 1972, when the price of imported oil rose above that for domestic oil, cooperatives began to face severe supply problems. Producers of domestic crude began clamping down on the exchange or sale of such oil. As a result, several cooperative refineries cut back output in late 1972 and early 1973.

These cooperatives, as well as those without refineries, were faced with finding alternative and additional sources of supplies. They had to go into the marketplace and bid for scarce supplies. Part of the premium prices were passed on to member cooperatives; most were absorbed by the regional cooperatives.

The executive vice president of a large cooperative in the East stated that "we did everything possible to maintain supplies to our patrons in 1973. We were able to do this but at a price when domestic crude was \$5 to \$9 a barrel (about 12-21 cents a gallon), and imported crude was selling for \$11 to \$17 a barrel (26-40 cents a gallon). The price situation for imported refined products was even worse. We absorbed a substantial share of these added costs." In retrospect, this official believes they made the right decision. With 300,000 customers relying on the cooperative for petroleum products, it was more important to keep homes

warm and vehicles rolling than to have no action because of high costs of crude and refined products, he said.

Several other regional cooperatives paid the necessary high prices to get fuel, then sold it to members at below cost. Selling below cost to members eased their financial burden at the traditional seasonal peak and had the effect of spreading these costs throughout the year.

One Midwest regional cooperative went to the spot market for tractor gasoline for the fall harvest. It paid 31 cents a gallon wholesale for more than 3 million gallons but then charged member cooperatives only 22 cents a gallon. Another cooperative sold fuel to members at \$1 million below costs during April and May production peaks.

Propane for drying grain became scarce as brokers and non-historical users bought available supplies. A Midwest cooperative bought 500,000 gallons on the open market at 33 cents a gallon but supplied it to members for farm use at 17 cents.

The situation was similar for farmstead fuel oil heating. One regional cooperative bought 3.2 million gallons of No. 2 fuel oil for 36.9 cents a gallon and provided it to members at 20.7 cents a gallon.

In all of these cases, the competitive going market price did not reflect the added cost the regional cooperatives had to pay to secure supplies for members.

Storage and Transport Equipment Added

Several cooperatives recently invested several million dollars in storage facilities and inventories to assure greater flexibility in the market. This gave them more leeway in participating in domestic purchases and exchanges of fuels, and enabled them to bring more products under control for meeting seasonal peak demands.

FS Services, Inc., for example, expanded two river terminals, added a third terminal, and connected a tank farm to a major pipeline so it will

no longer depend on using river barges in periods of good weather.

Midland Cooperatives aggressively sought to obtain sufficient quantities of LP gas to meet projected needs. It doubled its tank-car fleet and its underground leased storage.

Farmers Union Central Exchange (CENEX) had on order, at the end of 1973, two half-million-gallon petroleum storage tanks.

Agway added new tanks at two terminals and planned to add more in 1973-74. Its distribution system of pipeline terminals and local bulk plants provided flexibility in coping with spot shortages.

Refinery Capacity Expanded and Planned

Several cooperatives took steps to produce more refined products for their members. Farmers Union Central Exchange increased the crude-run capacity of its Laurel, Mont., refinery from 32,000 barrels a day to 43,000 barrels a day. This was completed in December, 1973.

Texas City Refining, Inc., completed installation of a new catalytic cracking unit in mid-1974, which boosted refinery capacity by 20,000 barrels a day, or 25 percent.

Farmland Industries began modifications of its three oil refineries to increase output of gasoline products. Capacity of its Coffeyville, Kans., plant was increased 10,000 barrels a day. Two Wyoming



gas products plants with a daily capacity of 10,000 gallons were acquired.

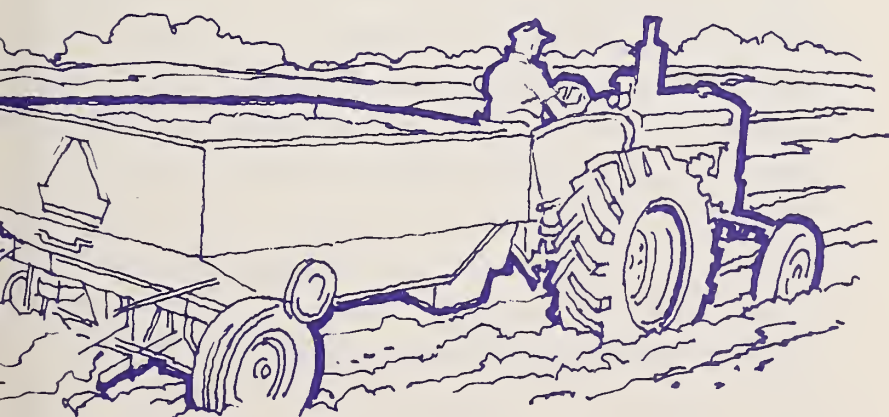
International Petroleum Trading Co-op Formed

Utilizing cooperative techniques on a broader scale, early in 1974 a group of 17 U.S. regional cooperatives formed an international oil trading and purchasing association—International Energy Cooperative, Inc. To meet its objective of obtaining additional sources of energy, it will conduct negotiations with several countries in the Middle East and Africa to: (1) Arrange purchase of crude oil in the international market; (2) arrange purchase of refined products in international and domestic markets; (3) enter discussions to evaluate the possibilities of trading food and agricultural and industrial knowledge for energy products; and (4) engage in crude oil exploration activities.

Other alternatives will be considered for improving cooperatives' sources for both crude oil and refined products.

FERTILIZER

Cooperatives are among the leading fertilizer manufacturers and distributors in the country. Farmers own about 4,100 fertilizer-handling cooperatives which in turn own 23 regional wholesale cooperatives to supply them. Many of these regionals, individually or cooperatively, manufacture



much of their nitrogen, phosphate, and potash needs. They also operate many mixing and local bulk blending plants, with supporting transportation and storage facilities.

Available Supplies Limited to Member-Patrons

User-owned and oriented cooperatives did all they could to get maximum fertilizer supplies for members for food production. Regional cooperatives passed up all opportunities in much of 1973 to export fertilizer at prices \$30 to \$35 a ton above controlled domestic prices. In contrast, investor-oriented companies, in view of the frozen domestic prices, shipped record volumes to foreign markets.

The policy of both local and regional cooperatives was to allocate available fertilizer supplies to member-owners—usually on the basis of their purchases in the past 3 years.

Special Purchases Made at High Costs

Demand for fertilizer was high because of the increased acreage under cultivation. Cooperatives had to purchase a considerable volume from outside sources to supplement their own production. Cooperatives generally were against control of fertilizer prices, hoping more supplies would be available for domestic use, even though at higher costs to farmer members. When control was lifted, prices increased rapidly and cooperatives often paid dearly to supply members. Some ammonia reportedly sold for more than \$300 a ton in the Midwest.

Herman E. Talmadge, chairman of the Senate Agriculture Committee, praised cooperatives for their efforts in supplying fertilizer to farmers. He cited how Gold Kist Inc., a southeastern regional cooperative, paid excessively high prices to supply fertilizer for 15,000 acres of corn in southeastern Georgia, and stated that it had imported substantial quantities of fertilizer during the past year for which it had paid premium prices. In both instances, farmers were charged regular market prices though below cost at the time of purchase. In contrast, he said two large suppliers withdrew from

the Georgia market and a third was considering such action.

Edwin M. Wheeler, president of the Fertilizer Institute of America, stated at one of its meetings that during the doldrums of the late 1960's only cooperative leaders saw significance in the slow but steady annual 5-percent rise in farmers' fertilizer use. As a result of staying with their farmer members through these trying no-profit times, cooperatives now control almost 40 percent of the Nation's fertilizer market, he said.

Manufacturing Capacity Expanded and Planned

"The shortages underscored the wisdom of our historical policy of vertical integration of farm supply production; that is, owning and controlling the product from raw material through manufacturing and transportation to local member associations" stated the president of a large regional cooperative in his 1973 annual report.

Farmer cooperatives are doing their part to expand fertilizer production and meet current shortages. For example, Farmland Industries' anhydrous ammonia plant at Enid, Okla., was completed and will provide an additional 380,000 tons of ammonia per year to farmers in the area. It also started work on a new 600-ton-per-day urea plant at Lawrence, Kans.

In the latter half of 1973, Mississippi Chemical Corporation, Yazoo City, began a \$42 million expansion program. It called for reactivating its old anhydrous ammonia plant at Yazoo City, and increasing production of ammonium nitrate from 400,000 tons per year to 550,000 tons a year. This will enable the organization to make more liquid nitrogen solutions. Remodeling to increase output of one of its mixed fertilizer plants at Pascagoula was started. Included in the program was some \$16 million to meet Federal and State environmental protection standards.

Storage and Transport Equipment Added

Cooperatives, as well as others, were faced with problems of moving fertilizer from plants to con-

suming areas. To help ease these difficulties, CF Industries added several facilities. It purchased a barge line in the Midwest and later transferred its assets and liabilities to a new interregional barging cooperative, Agri-Trans Corporation—owned by CF and five other cooperatives for transporting mainly grain and fertilizer. Heavy demand for rail hopper cars for wheat shipments caused CF Industries to lease 700 additional cars from various sources; and it built a 50,000-ton phosphate terminal in the port of Tampa.

FS Services invested \$1 million to lease thirty-five 100-ton rail hopper cars to move phosphate. Farmland Industries and FAR-MAR-CO—a regional grain cooperative—purchased 100 jumbo hopper cars at a cost of \$1 million for each organization. They will be used to move grain or fertilizer to help relieve delays such as those recently encountered. Mississippi Chemical Corporation also increased its storage facilities for urea and potash.

OTHER ACTIONS

Worked Closely With Congressional Committees

Officials of regional cooperatives informed members of Congress from their areas about the fuel and fertilizer situation, and called on them for assistance in arranging appointments with officials of several Federal agencies to point out the urgent needs of agriculture.

Officials of regional cooperatives and the National Council of Farmer Cooperatives testified before subcommittees of the House Agriculture Committee, the Senate Agriculture and Forestry Committee, and the Joint Economic Committee during hearings on fuel and fertilizer shortages. These committees were helpful in pointing out to Government agencies the need for agriculture to receive priority for all of its current requirements if food and fiber production goals were to be attained.

Worked Closely With Government Agencies

Regional supply cooperatives, working individually and through the National Council of Farmer Cooperatives, also worked directly with Government agencies on food and fiber needs. They made known agriculture's requirements in manufacturing and transporting farm inputs; in production operations; and in processing and moving farm products to consuming centers.

They discussed problems with officials of the U.S. Department of Agriculture, Department of the Interior, Federal Energy Office, and Federal Power Commission. And they worked closely with regional and State offices that dealt with agriculture and energy.

While these activities were more intense during the acute shortages, they still continue to assist farmers who must make production plans several months in advance.

Policies and Codes of Conduct Reviewed

The recent period of shortages has caused many supply cooperatives to review their policies with regard to objectives, allocations, membership, patronage, pricing, management and employee attitude, and business conduct. As mentioned, they generally limited short supplies to member farmers on the basis of their recent years' patronage; and regional wholesale cooperatives absorbed most of the premium prices paid to keep supplies available to local cooperatives or farmers.

As an example of formal action, early in 1974 the board of directors of Pacific Supply Cooperative, Portland, Oreg., adopted the following Code of Conduct developed by its management staff:

1. We will share all pertinent factual knowledge with customers at earliest possible moment.
2. We will honestly state our ability to supply goods and services, based on information available to us at the time of inquiry.
3. We will administer as equitably and humanly possible the allocation of all products.

4. We will be governed by honest pricing and will not exploit market opportunities to generate excessive profits.

5. We will strive to reflect mature concern and understanding in our relationships with customers and suppliers.

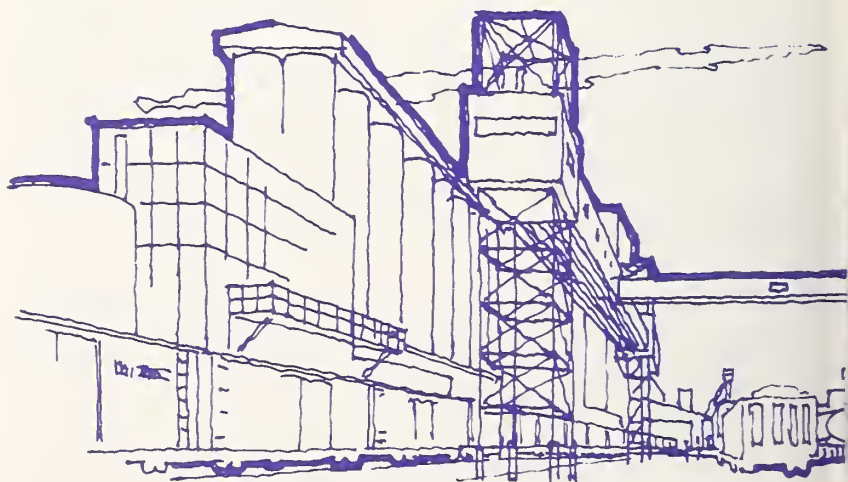
Members Urged to Conserve Supplies

Cooperatives not only allocated fuel and fertilizer to patrons but also offered various suggestions for conserving or extending their use. These included suggestions for conserving or reducing use of heating and power fuels and fertilizer supplies. They encouraged use of substitutes in plant foods, based on soil tests and agronomy records.

PLANNING FOR THE FUTURE

“Cooperatives provide an organizational arrangement whereby farmers can develop safeguards against the chronic shortages of farm supply items. Farmers should move forcefully to use their co-operatives to this end.”—Ronald D. Knutson, administrator of Farmer Cooperative Service.

The experience of cooperatives in the recent period of shortages pointed up the need for serious future planning. This includes assembling information on expected demand; additional production,



manufacturing, and transportation facilities needed to strengthen the cooperatives' supply position; capital requirements; coordination efforts among regional cooperatives that may be beneficial; and commitments that will be needed from member local cooperatives and farmers.

Petroleum Supplies

Some regional cooperatives are planning for additional refining capacity. CENEX, for example, plans to increase its light product refining capacity from about 27,200 barrels per day to 46,500 barrels per day over the next 7 years.

Future expansion of refineries, however, may largely depend on the availability of crude oil supplies; thus the need for controlling more crude oil should receive special attention. This involves exploration, production, purchasing, and transportation. Cooperatives now produce only a small proportion of the crude oil they refine.

As mentioned, most have become members of a new energy cooperative that will examine the possibilities of purchasing and importing crude oil. And there likely will be more planning and action on a regional or area basis. For example, plans recently were announced for a joint venture by three midwestern cooperatives and three oil companies to build a pipeline from Freeport, Tex., to Cushing, Okla. This will enable them to move crude oil inland that is brought to the Gulf by ocean-going supertankers from exporting nations.



Possibly the same principle can be applied to exploration and production activities. In September 1974, Farmland Industries agreed to purchase an interest in a crude oil exploration company at Houston, Tex., which has concessions covering 615,000 acres and an interest in a pipeline in Colombia. Farmland's outlay was \$4.5 million.

Fertilizer Supplies

Recent shortages and predictions of tight fertilizer supplies until 1980 have prompted cooperatives to step up planning and action in this field. They have under development plans that will require a capital investment of perhaps a billion dollars or more.

In June 1974, for example, Mississippi Chemical Corporation purchased the Nation's largest known potash reserve in the Carlsbad, N.M., area. Included in the \$20 million purchase was 9,480 acres of land, the right to mine 47,500 acres owned by the State and Federal governments, water rights, a mine, and above-ground facilities. Another \$50 million likely will be required to build modern above-ground facilities. When in full operation, the reserve can produce more than 500,000 tons of potash annually. Also, the cooperative conducted prospecting activities on 18,000 acres containing phosphate rock in Florida. Officials indicate that the organization may have to invest \$300-\$400 million in the remainder of this decade to provide plant food for its members.

Other regional cooperatives early in 1974 announced extensive plans for increasing nitrogen supplies in cooperation with other firms in Alberta, Canada. CF Industries, Chicago, Ill., owned by 18 U.S. regional cooperatives and three Canadian cooperatives, plans to build a 625,000-ton-a-year nitrogen complex at Medicine Hat, Alberta, capable of producing 420,000 tons of anhydrous ammonia a year. Also, a 1,200-ton-a-day urea plant will be built.

Farmland Industries developed an arrangement with other firms that calls for building four plants producing a total of 1.5 million tons of anhydrous

ammonia a year and a 1,200-mile pipeline. Canadian interests will be responsible for financing the project and Farmland will construct and manage the plants and market their output. Both projects expect to have additional supplies available by 1976. And in August, 1974, Farmland announced plans for joint ownership with a major chemical company of a 1,200-ton-a-day ammonia plant in Enid, Okla.

In mid-1974, Valley Nitrogen Producers, Fresno, Calif., announced plans for enlarging and upgrading its fertilizer facilities. Its \$18 million program includes expanding and improving its phosphase plants, studying the feasibility of a new phosphoric acid plant, constructing an ammonia storage terminal, improving existing plants to meet safety and pollution standards, doubling the production of its sulphuric acid plant, and developing a phosphate rock mine in western Wyoming.

Resources

Expansion in the basic production and manufacturing of raw materials into fuel and plant food will require large amounts of capital. For example, CF Industries estimates some \$750 million will be needed to provide production and distribution facilities needed to adequately serve fertilizer requirements of its members. Planning, therefore, must take into account financing plans that embody investments from regional and local cooperatives and their farmer members, expected operating margins, borrowings, and other sources of funds.

Equity capital is most important in establishing a financial base. Research should indicate alternative ways of raising such member capital. Two fertilizer cooperatives have successfully raised equity funds by requiring members to make capital stock investments proportionate to their current fertilizer needs or allocation rights. Looking toward longer term programs, could capital be accumulated through "capital additions" to each purchase or invoice? For instance, 2 cents a gallon on purchases of 500 million gallons of fuel, or \$10 a ton on 1 million tons of fertilizer will each provide \$50

million of capital in 5 years. Such a plan would be a counterpart of "capital retains" used by many marketing cooperatives.

Planning also should cover manpower resources. Highly competent personnel will be needed to operate more complex, integrated facilities and services and to provide the information and benefits members will expect if they are to support such cooperative enterprises.

While the demand and risks may be high, they should be evaluated in terms of their contribution in helping to assure sources of vital inputs farmers will require to produce food and fiber needed in the future.



FARMER COOPERATIVE SERVICE

U.S. DEPARTMENT OF AGRICULTURE

Farmer Cooperative Service provides research, management, and educational assistance to cooperatives to strengthen the economic position of farmers and other rural residents. It works directly with cooperative leaders and Federal and State agencies to improve organization, leadership, and operation of cooperatives and to give guidance to further development.

The Service (1) helps farmers and other rural residents obtain supplies and services at lower cost and to get better prices for products they sell; (2) advises rural residents on developing existing resources through cooperative action to enhance rural living; (3) helps cooperatives improve services and operating efficiency; (4) informs members, directors, employees and the public on how cooperatives work and benefit their members and their communities; and (5) encourages international cooperative programs.

The Service publishes research and educational materials and issues News for Farmer Cooperatives. All programs and activities are conducted on a nondiscriminatory basis, without regard to race, creed, color, sex or national origin.

